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ABSTRACT

This paper describes the achievement patterns of a sample of 1,492 multiracial high school students and examines how their achievement fits into existing theoretical models that explain monoracial differences in achievement. These theoretical models include status attainment, parenting style, oppositional culture, and educational attitudes. The results replicate previous findings about the racial hierarchy of academic achievement among monoracial youth and demonstrate the similarity of the hierarchy within biracial groups: part-black and part-Latino youth fare poorly while part-White and part-Asian youth achieve the most. Furthermore, multiracial students who self-identify as black or Latino achieve less in school than those who identify as White or Asian. However, unlike previous findings, this paper shows that racial identity and experiences of racism are not strong factors in explaining the achievement of multiracial or monoracial students. Instead, the school achievement of multiracial students is related to some mix of the variables present in explanations for each monoracial group. (Contains 52 references.) (SM)

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The Black-White-Other test score gap: academic achievement among mixed race adolescents.

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Abstract: This paper describes the achievement patterns of a sample of 1,492 multi-racial high school students and then examines how their achievement fits into existing theoretical models that explain mono-racial differences in achievement. These theoretical models include status attainment, parenting style, oppositional culture, and educational attitudes. My results replicate previous findings about the racial hierarchy of academic achievement among *monoracial* youth and demonstrate the similarity of the hierarchy within *biracial* groups: part-black and part-Latino youth fare poorly while part-white and part-Asian youth achieve the most. Furthermore, multi-racial students who self-identify as black or Latino achieve less in school than those who identify as white or Asian. However, unlike some previous findings, my paper shows that racial identity and experiences of racism are not strong factors in explaining the achievement of multi-racial *or* mono-racial students. Instead, the school achievement of multi-racials is related to some mix of the variables present in explanations for each monoracial group.

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Introduction

Over the last decade, multi-racial and multi-ethnic[2] people and their racial/ethnic identities have increasingly fascinated researchers in fields ranging from psychology to demography. This heightened interest is the result of changing demographics in the United States. In the 1970's, several years after the last few states repealed their anti-miscegenation laws, one in 100 children born in the United States had parents who were not of the same race. In the thirty years since, that ratio has increased to one in 19 (National Center for Health Statistics, 1999). Consistent with the relatively new interest in this field of multi-racial identity development and the difficulty of identifying appropriate samples, much of the research is theoretical and the little empirical work that exists is based small, non-random samples of multi-racial people.

If research in this field is in its infancy, research on developmental outcomes for multi-racial youth is still being conceived (metaphorically). This small body of empirical research has focused almost exclusively on mental health outcomes (Rocquemore and Brunsma, 2002). Researchers who have considered race in terms of other developmental outcomes such as academic achievement, have focused on cultural and environmental factors associated with *monoracial* groups, not multi-racial groups. For example, sociologists of education have documented consistent race differences in academic achievement: Asians and Asian-Americans achieve the highest grades and test scores, on average, followed by non-Hispanic Whites, then Hispanics and African-Americans (Hallinan 1988, Lee 1996, Jencks and Phillips 1998). These

[2] Multi-racial will henceforth refer to multi-racial *and* multi-ethnic.

differences remain significant even when one controls for the quality and funding of the school, family socioeconomic status, and neighborhood, family and peer group influences (Jencks and Phillips, 1998). *If these things do not explain the test score gap, what does?*

As educators and public policy makers struggle with issues of test score gaps between monoracial groups, they have made use of a select group of theories to guide their research and practices. Because these theories were all developed to explain the achievement gaps between monoracial groups, they do not adequately address the complexities of achievement differences among America's growing number of multi-racial youth. Indeed, almost nothing is known about how and why these differences in achievement or their causes might play out among multi-racial youth. This paper will describe the achievement patterns of multi-racial youth and then examine how their achievement fits into four mainstream theoretical explanations of monoracial differences in achievement: status attainment, parenting styles, oppositional culture, and educational beliefs. These four theoretical explanations for achievement and its variations by race represent the current range of thinking on achievement differences because they take into account factors such as background, environment, culture, and cognitive processes. They lack a physiological perspective, but most of the literature concurs that biological differences between race groups, if they exist at all (King, 1981), do not have a significant influence on the achievement gap between race groups.

Background:

The monoracial test score gap:

Much of the work on ethnic differences in academic achievement focuses on African-Americans and non-Hispanic Whites (henceforth referred to as blacks and whites; see Jencks and Phillips 1998 for a complete review). Hernstein and Murray (1994) aside, this work provides compelling evidence that the test score gap between blacks and whites is environmental, not hereditary. For example, black and multi-racial children who are raised in white homes have higher test scores than those raised in black homes (Nisbett, 1998). Since the 1930s when IQ tests were first administered, scores have risen for all ethnic groups (Flynn 1987; Neisser, 1998) and the gap between black and white IQ scores has decreased over the last century (Hedges and Nowell 1998, and Grissmer, Flanagan, and Williamson 1998). Finally, the test scores of blacks raised in white families decrease relative to their white peers during adolescence (Nisbett, 1998).

Environmental explanations for this test-score gap range from ethnic differences in family socialization toward school achievement (Steinberg, Dornbusch, and Brown, 1992) and ethnic differences in the cultural values placed on education (Ogbu, 1978) to perceived or real ethnic discrimination in school by teachers (Mickelson 1990; Carew and Lightfoot 1979; Baron, Tom, and Cooper 1985) and stereotype threat (Steele, 1997). Other explanations point to how assimilation with American culture and school norms affects the achievement of

Asian-Americans and Latinos (Suarez-Orozco and Suarez-Orozco, 2001; Lee 1996, Stanton-Salazar, 2001).

In addition to the race-focused theories, there are other sociological explanations for achievement and attainment among all race groups. For example, the scholars of status attainment (Blau and Duncan 1967, Haller and Portes 1973) show that family socioeconomic status, ability, prior achievement, aspirations, and role models are the most significant predictors of educational and occupational attainment. Though their original research was done on middle and working class white Midwestern boys, more recent research suggests that the impact of these variables on attainment is similar for other groups (Jencks, Crouse, and Meuser 1983; Alexander, Eckland, and Griffin, 1975). There is reason to expect, therefore, that these variables might behave similarly in a model employing multi-racial subjects.

The same could easily be said for other theories explaining the achievement gap between race groups. That is, there is no reason to expect statistical models of achievement to look different among multiracial subjects than monoracial subjects. For example, research on the relationship between parenting and achievement shows that certain parenting styles are associated with higher achievement across all ethnic groups (Baumrind 1978, Steinberg et al 1992, Dornbusch et al 1987). Dornbusch and his colleagues reported that Asian, Hispanic and black students are more likely than white students to experience authoritarian parenting, which is not associated with high achievement in any

ethnic group.[3] In contrast, the authoritative parenting style is more prevalent among white households than minority households and Asian youth are least likely to come from homes where authoritative parenting styles are practiced. Among youth who do experience authoritative parenting, whites and Latinos are more likely to reap the benefits than Asian or black students(Dornbusch et al, 1987). While there may be differences in the extent to which any multi-racial group might exhibit these various parenting styles, there is no particular reason to think that the general relationship of parenting styles to achievement is likely to be different for multi-racials than monoracials.[4]

In contrast to the status attainment and parenting styles literatures, Ogbu's (1978) theory of oppositional culture is based on differences specific to certain racial and ethnic groups and therefore might not translate so well to multi-racial subjects. Ogbu's theory specifies that members of involuntary minority groups (African-Americans, Latinos, Asian refugees) perceive limited returns to education and racist educational/occupational opportunity structures. Therefore, these students develop resistance to school and the white/middle class cultural achievement standards they perceive to be controlling the school. The result is a peer group that imposes negative sanctions for academic achievement and depressed grades for involuntary minority group students. One problem with

[3] There is a debate over whether Asian parents truly employ the authoritarian parenting style or whether the models fail to capture some aspect of Asian parenting that allows Asian students to do comparatively well in school despite what appears to be authoritarian-style parenting. See Chao (1994, 2001) for details.

[4] Multi-racial families with white mothers may employ different parenting styles, on average, than multi-racial families with white fathers, etc., and parents of multi-racials may be more embracing of differences, more open to negotiation and therefore more authoritative. Furthermore, parents may treat siblings differently, for example treating one brother as "the white one" and the other brother as "the black one" (Williams, 1997). However, these differences would not affect the expected relationship between parenting style per se, and race.

Ogbu's explanation is that it assumes that the experiences of the race groups are culturally specific, identifiable, and different.[5] Ogbu argues that the factors detering black students' academic achievement are rooted in the African-American culture and its rejection of the mainstream white middle class culture. Similarly, Ogbu would argue that the factors deterring Latino student achievement are rooted in Latino-immigrant culture and its relationship to white culture; that Native American culture and the history of its relationship to white culture affects the ability of Natives to excel in school, and so forth. Although his theory is explained in terms of differences in the ways involuntary and voluntary minority group members approach school, the explanation for the differences is rooted in specific cultures such as African-American culture, Latino-immigrant culture, etc. While Ogbu's theory was not designed to explain the experiences of mixed race individuals, it nonetheless fails to do so. Thus, scholars looking for a more parsimonious and scope-free theory are left to develop a hypothesis that would address this theoretical gap.

Mickelson (1990) attempted to do just this when she proposed her theory of concrete and abstract beliefs. She showed that Ogbu's findings about academic performance among involuntary minorities can be explained by differences between blacks and whites in concrete beliefs regarding the chances for educational and occupational success. While nearly all students hold the abstract belief that achievement in school is important to success in life, Mickelson showed that black students are much more likely to have pessimistic

[5] Other scholars have expressed different reservations about Ogbu's thesis, for example Ainsworth-Darnell and Downey 1998.

concrete beliefs about their own personal abilities to secure the economic benefits of increased education. Her findings have been replicated on other monoracial samples (Steinberg, Dornbusch and Brown, 1992; Dillingham 1980) and so it is reasonable to think similar results might be found among the multi-racial sample. However, nobody has tested Mickelson's, Obgu's, or any of the other theories listed above among a multi-racial sample.

Multi-racial achievement

The little research that exists on developmental outcomes for multi-racial students focuses on testing a 75-year-old theory developed by sociologists Robert Park (1928) and Everett Stonequist (1935). The "Marginal Man" theory suggests that biracial people are more prone to low self-esteem and its attendant problems because they are marginalized and isolated from "both" monoracial groups. Park (1928) gives ethnographic evidence of this isolation among mixed race people though no evidence of its impact on achievement. Some developmental psychologists have examined the self-esteem of multi-racial people and report that there is no psychological disadvantage associated with a multi-racial background (Phinney and Alipuria 1996, Field 1992, Grove 1991 Cauce et al, 1992) though others support the Marginal Man theory that multi-racial people are troubled and marginalized (Berzon 1978, Nakashima 1992, Gibbs 1987, Sommers 1964, Tiecher 1968). Sociologists such as David Harris (2002) provide little support for Park's theory by showing that social distance between groups does not consistently affect the test score gap among multi-

racial high school students and Grace Kao (1999) finds that the way multi-racial youth self-identify plays an important role in their academic performance, particularly among black-white biracials.

The Marginal Man theory provides a compelling, though discomforting, explanation for poor treatment of multi-racial people in our society. Namely, biracial people are marginalized by "both" groups and have trouble finding a status group with which they can identify fully. A different argument derives from an equally uncomfortable social norm in American society: the one-drop-rule, also known as the norm of hypodescent. This norm, developed in the era of slavery in the southern United States, essentially stipulates that a multi-racial person is assigned to the group with the lowest social value among the race groups represented by his/her ancestry (see Root, 1997 for a full description). Similar social norms governing racial and ethnic relations indicate that Black Americans fall at the bottom of the social hierarchy, followed by Latinos and Asians, with non-Hispanic northern Europeans at the top. Combining these norms, one can derive the hypothesis that mixed race people, especially to the extent that they have any Black ancestors, will fall toward the bottom of the social hierarchy and experience similar treatment as "monoracial" Blacks. Such treatment, I argue, leads to similar racial identification and developmental outcomes for part-black biracials. Indeed, work by Herman (2001) shows that of all mixed-race youth, those with some black or Latino heritage are far more likely to report (on a survey) being black or Latino than those with some white heritage are to report being white or those with some Asian heritage are to report being

Asian. If membership in a lower status race group is related to lower school performance for monoracial African-American and monoracial Latino youth, it is logical to wonder whether the same relationship is found among multi-racial youth who *identify* as Latino or African-American.

The achievement of multi-racial students may be similar to that of the race group(s) with which they identify and/or it may be similar to the achievement of the race group in which others perceive them to be. All people, regardless of racial background, are treated according to certain stereotypes (Cohen 1972, Aronson et al 1999). Adolescents, particularly those subject to negative racial stereotypes, find themselves either having to live up to the stereotypes or actively deny them (Lee 1996; Brown, Hamm, Herman, and Heck, 2002). This process of reacting to stereotypes is probably more complicated and potentially more difficult for multi-racial youth because they are subject to the stereotypes of multiple groups. This logic leads to several testable hypotheses:

1. Multi-racial students with some black or Latino ancestry have lower achievement than multi-racial students with no Black or Latino ancestry.
2. Among multi-racial students with some black or Latino ancestry, those who *self-identify* as black or Latino have lower achievement than those who self-identify as white or Asian.
3. As with monoracial students, racial identity is a strong factor in explaining the achievement of multi-racial students.

4. Unlike monoracial students, racial identity is not particularly salient to multi-racial students in terms of academic achievement; other variables are much more important.

Data

Sample

The survey population used in this study consists of all students in nine high schools in California and Wisconsin between 1987 and 1990. The survey was originally designed to study parenting styles, peer interaction, and academic achievement but the questionnaires also included many items relevant to the study of race and ethnic identity (Steinberg 1996). The survey sample included all students who were present in school on the day the survey was administered except for a small percentage which refused to participate and those whose parents prohibited participation.[6] *Give more details about the prohibited kids* Usable questionnaires were obtained from approximately 80% of potential respondents. Herman (2002) provides details about the biracial subsample and its demographic characteristics. Of the 10,275 respondents, 8,732 (85%) reported a race for themselves and for both biological parents. Of the respondents who completed the items for their own and their parents' race, 1,496 (16.9%), were designated as biracial based on the reports of their parents' race(s). Table 1 shows the breakdown of biracial groups and the responses of multi-racial adolescents on the forced choice race question ("which race best describes you?"). Because respondents were only given a mono-racial option, it

[6] Steinberg et al. (1992a) provide details on the survey, its administration, and resulting minor biases in the sample. .

is not possible to determine which multi-racial respondents claim a multi-racial identity and which do not. However, it is possible to compare multi-racial respondents who make different mono-racial claims and those who refuse or fail to answer the question.

********** Table 1 approximately here **********

Measures

The measures are described in groups corresponding to the models presented below, each of which corresponds to one of the theories of achievement described above. The status attainment model variables include the standard student-reported mean years of mother's and father's education, academic orientation of peers, educational aspirations, and prior achievement (grades). In addition, I included a measure of ethnic identity "how important is it that others know your ethnic background" to see whether this variable differentiated among monoracial groups. (See appendix for a full description of these and other variables described in this section).

The parenting style model includes the constructed variables authoritative, authoritarian and permissive parenting developed by Dornbusch et al., (1987). Each of these constructs employs a unique set of variables measuring the amount of psychological autonomy parents grant, behavioral control exerted over the youth, and parent involvement in education.

Because Ogbu's (1978, 1996) work is ethnographic, measuring the concepts associated with the oppositional culture hypothesis using survey items is challenging. However, the variables in my oppositional culture model capture many of Ogbu's central concepts including educational expectations, effort in school, perceptions of racism by peers, teachers, and other adults, and positivity of feelings about ethnic identity.

Mickelson's (1990) argument about the negative effects of pessimistic concrete beliefs on *black* students' achievement suggests a test among *multi-racial* students: do those multi-racial students who have some black ancestry have more pessimistic concrete beliefs about their own 'personal chances to succeed, given a good education'? Mickelson's concepts map well onto my survey data using a question examining the difference between worrying about the occupational consequences of one's not getting a good education (concrete belief, focused on the individual) and being convinced that getting a good education will help one secure a good occupation (abstract belief, true for everyone). In addition to concrete and abstract beliefs, Mickelson's model and my tests of it include variables measuring socioeconomic status, effort in school, and peer academic values.

As an outcome variable measuring achievement, I use student-reported grades. The fact that the grades are self-reported makes them slightly unreliable compared to transcript reports of these variables. However, separate analyses of these data (Dornbusch 1994) comparing student reports to transcript information for a sub-sample of the students showed that student-reported

grades by middle and upper ability students are mostly accurate (correlation of .76) while those with GPAs below 2.0 tend to inflate their grades somewhat. The grades variable is the average of four student-reported grades (social studies, English, math, and science). The current paper uses the second year grades as an outcome and the first year grades as a control variable.

Methods

The first hypothesis is that students who have some black or Latino ancestry have lower grades than those who do not. Thus, I begin by comparing descriptive statistics of all the groups' grade point averages. Figure 1 provides some support for this hypothesis insofar as the average grades of all groups with some black and or Latino heritage are significantly below the sample mean ($p<.001$). Furthermore, the black-Latino group has the lowest grades of all groups and it is considerably below the average of both the monoracial black and monoracial Latino groups. Black-Latino students may be suffering under the double burden of whatever negative effects membership in each of these two race groups has on educational achievement.

The second hypothesis is that biracial students who identify as black or Latino have lower grades than those who self-identify as Asian or white. To test it, I compare the grades of students in the same biracial category who self-identified differently and discover that the hypothesis is supported for some of the biracial groups. For example, the top section of table 2 shows that Latino-white students who identify as Latino have significantly ($p<.001$) lower grades (average

GPA = 2.37) than those who identify as White (2.70). White-identifiers also have significantly higher peer academic values than the Latino-identifiers. The second section of table 2 shows that black-Asian students who report being black have significantly lower grades (2.14) than those who report being Asian (3.5). There are no significant differences between the grades of Asian-Latinos who report being Asian and those who report being Latino, though the academic aspirations of the Asian-reporters are significantly higher. Similarly, there are no significant differences between black-white students who identify as black versus white on variables related to academics though there are some differences related to ethnic identity. The grades of Asian-whites who identify as Asian (3.15) are significantly higher than those who identify as white (2.76). There are no significant differences in the grades of black-Latinos who report being black and those who identify as Latino. Thus, having black or Latino ancestry and self-identifying as black or Latino are both associated with decreased grades relative to not having or self-reporting these racial statuses.

********** Table 2 approximately here **********

The third and fourth hypotheses examine whether ethnic identity is a strong factor in explaining achievement among multi-racial students. In particular, I am interested to compare the strength of ethnic identity as a factor in predicting achievement among multiracial versus monoracial students. In order to test these hypotheses, I began by checking to see whether the multi-racials

should be disaggregated from the monoracial groups using a statistical test for pooled significance. This test regressed grades at time 2 on grades at time 1, SES, importance of ethnic background, educational aspirations, fears of the consequences of failing in school, and a biracial dummy variable[7]. The biracial dummy variable indicates whether the respondent is biracial but does not distinguish among the different biracial categories. The results (presented in Table 3) show that multi-racials as a group are significantly different from monoracial blacks and from monoracial Asians, and multi-racials can therefore be disaggregated from these two monoracial groups in testing the third and fourth hypotheses that ethnic identity matters differently for multi-racials versus monoracials.

In addition to testing the hypotheses outlined above, I also considered whether the theories of racial differences in achievement described in the introduction fit for biracial groups. Furthermore, although scholars know that there are significant differences between monoracial groups in the relationships between background variables and educational achievement, findings supporting this knowledge are based on samples that were probably not truly monoracial in the sense that they included multi-racial respondents who were forced to choose one race category.[8] I was therefore interested to see whether relationships hold

[7] These variables represent the major concepts from each of the theoretically driven models. Results of this and all the other models are the same with and without including gender as a variable.

[8] Although probably nobody is truly monoracial in the biological sense, my sample distinguishes monoracial from multi-racial on the basis of student reports indicating that both parents were exclusively of the same race as each other.

for truly monoracial samples, so I estimated each theoretical model on the monoracial and biracial groups separately. See table 4 for these results.

Next, in order to compare the effects of each model across race groups, I estimated the theoretical models on my full sample using dummy variables for each monoracial category and interactions of each monoracial category with each theoretical variable (biracial is the omitted category).

Finally, I tested each individual biracial category against its component monoracial categories to see if the biracial category could be disaggregated from each of its monoracial categories. These models are set up just like the theoretical models used above but each one includes a dummy variable for the biracial category in question and is estimated on a single biracial group with one of its monoracial components at a time. For example, the status attainment model, estimated on a sample of black-white biracials and white monoracials, regresses grades at time 2 on black-white biracial status, gpa1, ses, ethnic identity, peer values, and academic aspirations. See table 5 for significance results.[9]

********** Tables 3-5 approximately here **********

Results

Biracial vs. monoracial groups

[9] Full reporting of the results from these and the full-sample comparison models require too much space to be presented in the manuscript but are available from the author upon request.

In comparing the impact of ethnic identity on grades for mono-racial and multi-racial students, I began by considering what was significant to the achievement of mono-racial students. My findings on this matter are unique because most other research on this topic has almost certainly included some multi-racial students in what were tacitly assumed to be "mono-racial" samples. I found that among "truly" monoracial whites (those who reported white, and only white, for both parents' race), higher grades are significantly associated with socioeconomic status, having high expectations for educational attainment, fearing the consequences of failing in school and placing importance on one's ethnic background (see Table 3).[10] For mono-racial Latinos, the latter two variables were likewise associated with higher grades. For monoracial Asians, having high academic aspirations and fearing the consequences of school failure were associated with significantly higher grades; for monoracial blacks these same two variables and socioeconomic status were significant.[11]

In assessing the third hypothesis about the effects of ethnic identity on achievement, it is apparent that racial identity is a strong factor in predicting the achievement of only monoracial Latinos and monoracial whites. Among biracial youth, ethnic identity is not significant in predicting achievement and in this they differ significantly from Latinos and whites. To test the fourth hypothesis,

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[10] While whites do not place much importance on their ethnic background, most nonetheless report having positive feelings about their ethnic identity. In contrast, most minority groups report placing high importance on ethnic identity and having positive feelings about that identity.

[11] My findings on monoracial Asians differ somewhat from findings estimated on a sample that is not exclusively monoracial. That is, among students who report that both parents are Asian, expectations of educational attainment have a significant impact on grades whereas among all students who report being Asian (including multi-racials who identify as Asian), expectations are not a significant predictor of grades. Among the other race groups, my findings on "truly" monoracial groups are virtually identical to findings on monoracial groups identified only by their response to a forced choice race question.

therefore, I look to existing theory for insight on factors that are more salient to achievement among multi-racial youth.

Theory-driven models

According to the status attainment theory and its associated empirical literature, one would expect a weak but positive association between socioeconomic status and academic performance. In contrast, one would expect a stronger positive association between aspirations, peer values and educational performance or attainment (Haller and Portes, 1973). Haller and Portes' findings are based on a midwestern white male sample gathered in the 1950s. Since their theory does not address differences across race groups, I have added a variable to the standard status attainment model measuring importance of ethnic identity as a way of including status attainment theory in the explanations for the achievement gap. See table 4 for details.

I was able to replicate Haller and Portes' original findings and the ethnic identity variable I added was not significant among whites. This lack of significance indicates that the factors predicting attainment in my sample are comparable to the original findings, at least in direction and significance (effect sizes vary somewhat). Monoracial blacks are quite different from whites in that of all the variables in the model, only earlier grades are significant in predicting later grades. Furthermore, blacks do not capitalize as much on their early grades as whites do—the effect size for grades is smaller among blacks than whites. Among Asian youth, the same variables that predict grades among whites are

significant in predicting grades except for socioeconomic status, which is not at all significant. It is possible that the resources Asian families put toward their children's education do not vary much by income level compared with the variance among other ethnic groups. Compared to whites, the peer academic values of Asian students have a greater positive impact on later grades than they do for white students. Possibly this effect of peer values reflects the greater communitarian orientation among many Asian groups (Lee, 1996). Monoracial Latino youth are different from monoracial whites on most of the variables in the status attainment model: their grades get less of a boost from prior grades, SES, and educational aspirations, but having a strong ethnic identity helps them much more than it does whites. The differences between white and non-white samples in the status attainment models may be the result of smaller sample sizes among the minority groups rather than true differences in the mechanics of status attainment.

Among all biracial youth, the same variables that predict grades among whites are significant in predicting grades except that SES is not significant. Prior grades do not have as much of a positive effect on later grades as they do for white students and the educational values of peers have a more positive relation to grades for biracial students. In these features, biracial youth seem most like Asian youth.

The parenting style literature (Dornbusch et al, 1987; Steinberg et al, 1992) shows that of all the parenting styles, authoritarian parenting has the strongest relationship to grades among adolescents and the relationship is

negative. Permissive parenting also has a negative effect on grades whereas authoritative parenting has a positive effect. Generally speaking, these relationships are strongest among white families but the relationships hold for blacks and Latinos as well. In my sample, I am able to replicate the findings of Dornbusch et al (1987) among "truly" monoracial whites but not among "truly" monoracial blacks or Latinos.[12] Similarly, I find no relation between parenting and achievement among biracials. This lack of replication is consistent with criticisms of the parenting style theoretical models which were developed using white middle class samples and do not always apply well to families of color, particularly Asians (Chao 1994, 2001). That is, to the extent that the original research was done on monoracial samples that actually included some part-white youth, it is not surprising that my replications show that parenting style models do not fit well for "truly" monoracial minority samples.

Ogbu's (1977, 1992) ethnographic work on oppositional culture suggests that involuntary minority youth (blacks and Latinos in this sample) have lower achievement than whites and Asians as a result of having low educational aspirations, peer values that denigrate educational achievement, disengagement from school, and a strong sense of identification with the ethnic group. My quantitative model attempts to test Ogbu's theory using the following variables to instantiate his concepts: educational aspirations, peer educational values, class cutting, effort put forth in school, and feelings about ethnic background. Other theorists of race and achievement suggest that racism is to blame (Carew and

[12] This paper uses the same dataset as Steinberg et al (1992) so replicating the findings among those self-reporting a race category is given whereas replicating it among those reporting monoracial status based on their parents having the same race is not necessarily given.

Lightfoot 1979; Baron, Tom, and Cooper 1985), thus I also included a variable measuring perceived discrimination (racism) in my model.

Among monoracial Black youth, the results of my oppositional culture model show that none of the variables has a significant relation with later grades except prior grades. Even without prior grades in the model, only aspirations and effort are significant--and barely so. All of the other ethnic groups differ from the monoracial blacks in terms of the main effect of ethnicity on grades: whites, Asians, Latinos, and biracials all earn better grades than blacks. Furthermore, perceived racism does not appear to affect the grades of any of the ethnic groups. Biracials earn better grades when they cut class less, have high aspirations, and have academically oriented peers. Asians earn better grades under the same circumstances. The grades of Latinos suffer when they cut class, reduce their efforts in school, and when they feel negative about their ethnic identity. The Latinos in this sample are mostly Mexicans and Puerto Ricans; as such they would fit with Ogbu's classification of involuntary minorities. Yet the overall evidence from the groups in my sample does not provide much support to Ogbu's theory.

A variation on Ogbu's theory by Mickelson (1990) suggests that it is not oppositional culture that sets involuntary minority youth apart from culturally dominant whites. Rather, minority youth believe that they face a racist job market and that this shapes both their academic aspirations and their achievement. The black youth in Mickelson's study espouse the belief that education generally helps people to realize greater occupational returns, but for

themselves, personally, they do not expect education to pay off well and therefore apply themselves commensurately at school. Mickelson calls this paradox the difference between abstract and concrete beliefs: everyone holds the abstract belief that education is the key to success, but blacks hold more pessimistic beliefs about the effects of education on their own personal attainment than do members of the majority group or voluntary minority groups. Thus, she predicts that those who hold pessimistic concrete beliefs about the effects of education on their own attainment will do worse in school than those who have optimistic concrete beliefs.

Steinberg, Dornbusch and Brown (1992) tested Mickelson's hypothesis using a variable that measures the extent to which a respondent believes that failing to get a good education will hurt his/her chances of getting a good job (concrete belief). They found that this belief is strongly associated with academic achievement whereas believing that getting a good education will increase one's chances of getting a good job (abstract belief) was not significantly associated with achievement because there was so little variation among respondents on latter measure.[13]

My model testing Mickelson's theory employs the Steinberg et al. (1992) measures of concrete and abstract beliefs along with peer educational values. The results show that this combination of variables is not significant in predicting the grades of monoracial black students with the exception of prior grades and effort in school. In contrast, concrete beliefs are significantly related to grades for

[13] In contrast, Steinberg et al. found wide variation on the concrete belief measure, the extent to which students feared the consequences of failing to get a good education.

biracials and monoracial Latinos; and academic peer values are significantly related to grades for biracials and Asians. All of the variables are significant in predicting the grades of white students. Thus, my results show some support for Mickelson's theory insofar as concrete beliefs (as instantiated here) are somewhat associated with grades.

Individual biracial groups and their component monoracial groups

My last set of models compares each multi-racial group and its component monoracial groups using the theories presented above. These paired race-group models help to understand differences between, for example, black-whites and monoracial blacks on determinants of achievement. The results (presented in table 5) show that black-Asians are significantly different from monoracial blacks and from monoracial Asians. Black-Asians have higher grades than those of monoracial blacks and lower grades than monoracial Asians. Perhaps the large social distance between monoracial blacks and Asians in the school context accounts for these significant differences.

The only other group that is significantly different from its monoracial components is the black-whites, who are significantly different from monoracial whites on the status attainment model and the oppositional culture model. In these models, black-white students' grades are significantly lower than those of monoracial whites. Again, the large social distance between blacks and whites may account for this significant difference in grades. However, there is no significant difference between blacks and black-whites. The one-drop rule may

apply more to black-whites than to black-Asians because of the long history of its being applied to black-whites. Black-whites may be considered black whereas black-Asians are given more leeway to assert their own identity. Indeed, table 1 confirms that black-Asians are slightly less likely than black-whites to report being black.

Closer examination of the black-white versus monoracial white model (table not presented) shows that black-whites have a different relationship between grades and many of the variables in the model. There is an interaction between black-white and socioeconomic status indicating that among low SES students, there is only a modest race effect on grades, but among high SES students, monoracial whites do significantly better than black-whites. (See figure 2.) This mirrors other finds of interaction effects between race and SES among monoracial samples (Ferguson, 2002). There is also an interaction of ethnic identity and race: although the average black-white respondent is more likely than the average monoracial white respondent to report that it is important for others to know his/her ethnic background, monoracial whites who report that their ethnic background is important gain an advantage in terms of grades. Conventional wisdom would be correct in assuming that whites typically have weak ethnic identity in the United States. However, on average, the black-whites in my sample have even weaker ethnic identities than the whites. Evidently, the whites in my sample manage to apply their ethnic identity, weak as it is, toward academic success more than black-whites. My model also shows an interaction between educational expectations and importance of ethnic identity. Whites are

better able to capitalize on their expectations for future education than black-whites.

Discussion

This study examines achievement among biracial and monoracial youth paying special attention to existing theories about the achievement gap between race groups. These findings demonstrate that the hierarchy of achievement by race among multi-racial groups is comparable to the hierarchy within monoracial groups: part-black and part-Latino youth fare poorly compared to part-white and part-Asian youth. Furthermore, multi-racial students who self-identify as black or Latino achieve less in school than those who identify as white or Asian. Yet, unlike much of the literature on race differences in achievement, this paper shows that racial identity is not as strong a factor in explaining the achievement of multi-racial *or* mono-racial students. Only among Latino students is positive ethnic identity a strong factor in explaining achievement. If not ethnic identity, then what factors predict achievement among biracial students?

The analyses in this paper show that biracial youth, like monoracial Asian and white youth, achieve more in school when they have peers who are invested in the education system. As with blacks and Latinos, the types of parenting that biracial youth experience are not particularly related to their achievement in school. Like whites and Latinos, biracial youth are stronger achievers when they fear the consequences of failing in school. Thus, there is something like each of

the monoracial groups evident among the explanations for achievement in the biracial group.

However, biracial youth are, at best, a poorly aggregated amalgam of mixes and types. It is important to consider the subgroups separately, as well as the whole subsample of biracial youth. Subgroup analyses show that only black-whites and black-Asians are significantly different from their respective monoracial component groups. To those familiar with the one-drop rule and the racial hierarchy of the United States, this finding should come as no surprise. Part-blacks have less choice in the formation of their ethnic identities because society imposes the one-drop rule and prevents their choosing other identities more than it does part-Asians and part-Latinos. This conjecture is consistent with the fact that the outmarriage rate is lower for blacks than Asians or Latinos; essentially, blacks are more constrained in their social choices related to race than Asians and Latinos (Goldstein 1999).

These results also show that the research on achievement and attainment, regardless of the race of the subject pool, misses some important concepts that would explain achievement among non-whites and those of mixed heritage. For example, the four theories analyzed in this paper all predict that expectations of educational attainment play a role in achievement and yet the findings in this paper show that expectations explain considerably more among a white sample than a mixed or non-white sample. We need better theories of both minority achievement and biracial achievement.

To test such theories we need adequate datasets. Research on mixed race youth suffers from a lack of large representative samples with good measures of racial identity and behavioral outcomes. We need a sample that includes enough of each biracial group to do meaningful comparisons between groups. We need surveys that explore students' self-identity allowing a mixed option along with choosing a default single best-race category. Ideally, such a survey would also include questions that assess all the theories of achievement differences discussed in this paper along with other current theories such as differences in achievement motivation across race groups (Ferguson, 2002). Hopefully, such research would allow for a more nuanced test of the theories and a retest of the two main findings of this paper: that the average achievement of individual biracial groups falls somewhere between the means levels of their component monoracial groups' achievement, and that ethnic identity is not a particularly salient factor in explaining the achievement of multi-racial youth.

Because existing theories of achievement do not adequately explain the differences between monoracial groups, perhaps considering multi-racial youth will help researchers develop better theories. Clearly, culturally specific theories only explain a small portion, if any, of the achievement gap between race groups. Theories that consider factors such as motivation, encouragement, and evaluation styles may be the way to advance our understanding of this crucial question of what, after controlling for typically background and environmental characteristics, explains the remaining differences in achievement across race groups and multi-racial groups.

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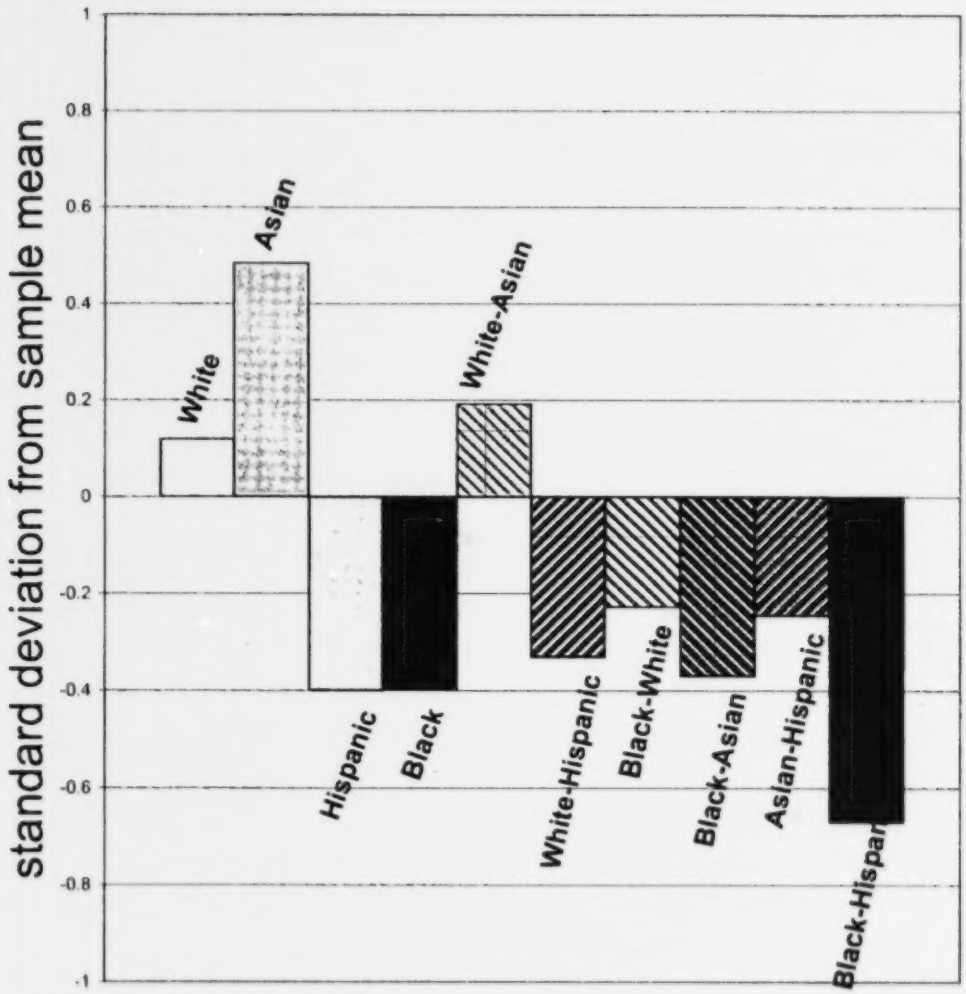
Figure 1: GPA in year 1



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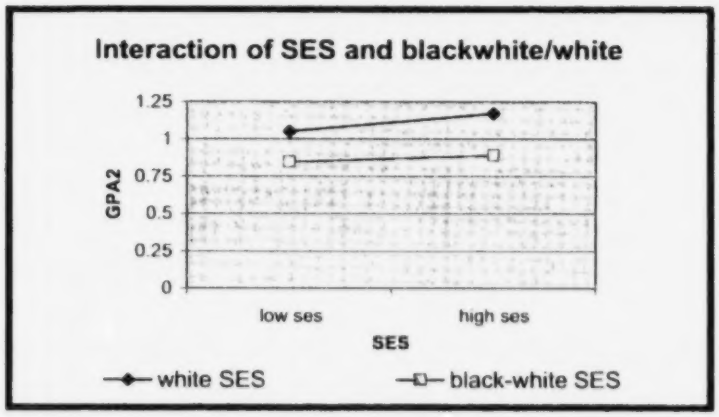
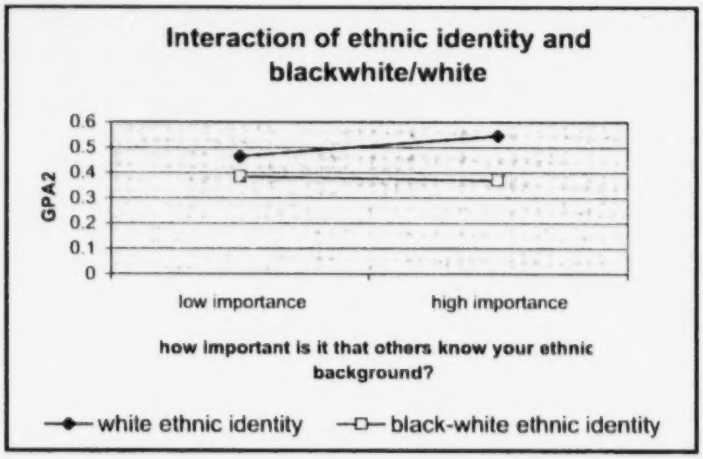
Figures 2-4: Interaction of race and exogenous variables predicting grades





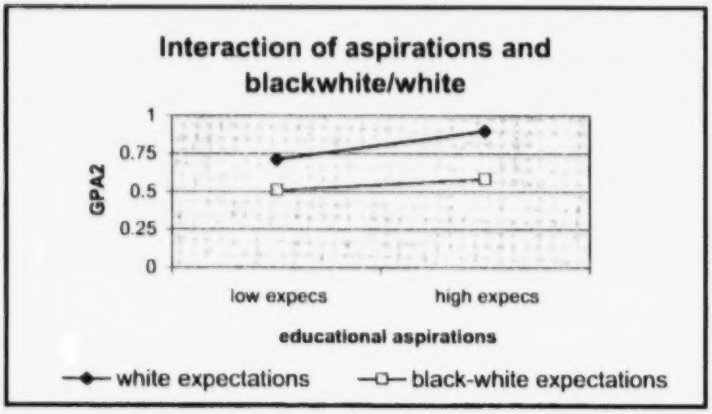


Table 1: Percent of multi-racial respondents who select each mono-racial category

	Black	White	Asian	Hispanic	Native American, Pacific Islander, or Middle Eastern	No choice	N	% of biracial sample
Black-Asian	57	15	7	7	7	7	60	1.8
Black-Hispanic	56	7	1	25	7	4	70	2.01
Other-Asian	11	14	23	15	37	1	89	3.07
Asian-Hispanic	13	15	15	40	12	5	101	3.48
Other-Hispanic	9	9	2	46	33	0	117	3.68
Other-Black	61	11	3	4	20	1	159	6.08
Black-White	68	16	1	2	4	9	160	10.7
White-Asian	4	33	43	6	10	4	298	16.71
Other-White	5	62	1	8	25	0	450	21.66
White-Hispanic	3	38	1	52	1	5	485	30.82
Total:							1,989	

Table 2: Statistically significant differences between biracial subgroups reporting different races

Variable		Reported Race	N	Mean	Std. Err.
		HISPANIC-WHITE			
Ethnicity is important	***	WHITE	180	2.11	.08
		HISPANIC	244	2.47	.08
Perceived racism	***	WHITE	178	1.23	.04
		HISPANIC	237	1.47	.05
GPA	***	WHITE	175	2.7	.06
		HISPANIC	229	2.37	.06
SES	***	WHITE	164	3.23	.04
		HISPANIC	210	2.82	.06
Peer academic values	*	WHITE	130	3.1	.06
		HISPANIC	173	2.9	.06
		BLACK-WHITE			
Ethnicity is important	**	BLACK	105	2.39	.12
		WHITE	24	1.71	.21
Feelings about ethnic group	**	BLACK	106	4.59	.12
		WHITE	25	3.72	.27
Concrete beliefs	*	BLACK	73	2.85	.08
		WHITE	15	2.20	.26
Permissive parenting	*	BLACK	109	.15	.03
		WHITE	25	.04	.04
		ASIAN-WHITE			
Perceived racism	***	ASIAN	122	1.45	.06
		WHITE	95	1.21	.05
Authoritarian parenting	**	ASIAN	99	.11	.03
		WHITE	127	.23	.04
GPA	***	ASIAN	117	3.15	.06
		WHITE	90	2.76	.08
		BLACK-ASIAN			
Authoritative parenting	**	ASIAN	34	.21	.07
		BLACK	4	.00	.00
GPA	*	ASIAN	4	3.50	.35
		BLACK	32	2.14	.17
		ASIAN-HISPANIC			
Academic aspirations	**	ASIAN	16	5.13	.26
		HISPANIC	40	4.15	.23
Authoritarian parenting	*	ASIAN	16	.31	.12
		HISPANIC	40	.08	.04
SES	**	ASIAN	14	3.36	.17
		HISPANIC	33	2.70	.15
		BLACK-HISPANIC			

No significant differences

* $p < .05$ ** $p < .01$ *** $p < .001$

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Table 3: Disaggregating biracials from each monoracial group

	White		Black		Asian		Latino	
	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.
Biracial	-.015		.077	**	-.044	*	.028	
GPA1	.643	***	.564	***	.666	***	.579	***
SES	.045	***	.052	*	.006		.027	
Positive feelings about ethnic group	.040	**	-.034		.006		.139	***
Academic aspirations	.078	***	.071	*	.065	**	.046	
Concrete beliefs	.071	***	.091	***	.062	***	.122	***
Biracial*positive feelings about ethnic group	-.033	*	.025		-.021		-.110	**
N	3341		982		1387		1164	
R2	.527		.405		.554		.417	

* p < .05 ** p < .01 *** p < .001

Table 4: Theoretical Models predicting GPA2, by Race group

	White		Black		Asian		Latino		Biracial	
Status Attainment	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.
GPA1	.660	***	.451	***	.697	***	.537	***	.602	***
SES	.049	***	.082		-.013		.036		.028	
Peer academic values	.051	***	.012		.089	***	.054		.111	***
Academic aspirations	.079	***	.046		.077	**	.020		.077	*
Ethnic ID important	.024		-.016		-.005		.109	**	-.036	
N	2644		283		649		417		650	
R2	.532		.208		.546		.322		.454	
Parenting Style										
GPA1	.673	***	.464	***	.705	***	.546	***	.654	***
SES	.052	***	.093		-.036		.009		.050	
Authoritative	.028	*	.064		.025		.050		.023	
Authoritarian	-.082	***	-.038		-.057	*	-.042		-.033	
Permissive	-.041	**	.054		-.116	***	-.052		.046	
N	2685		326		649		426		737	
R2	.532		.212		.548		.312		.439	
Oppositional Culture										
GPA1	.644	***	.444	***	.704	***	.485	***	.619	***
SES	.053	***	.082		-.007		.022		.032	
Peer academic values	.040	**	-.003		.083	**	.054		.108	***
Academic aspirations	.074	***	.050		.084	**	-.005		.082	*
Positive ethnic ID	.031	*	-.025		.000		.147	***	-.005	
Perceptions of racism	.004		.075		.039		-.039		-.003	
Cutting class	-.028	*	.008		.027		-.098	*	.077	*
Effort in school	.051	***	.107		.039		.096	*	.027	
N	2624		283		649		397		650	
R2	.535		.216		.547		.349		.456	
Concrete/Abstract Beliefs										
GPA1	.673	***	.450	***	.718	***	.519	***	.608	***
SES	.066	***	.089		.000		.014		.049	
Peer academic values	.044	**	-.001		.092	***	.052		.103	***
Effort in school	.048	***	.106		.025		.097	*	.020	
Concrete beliefs	.059	***	.010		.031		.131	***	.120	***
Abstract beliefs	-.047	***	.011		-.007		-.018		-.004	
N	2644		283		649		426		650	
R2	.534		.214		.542		.336		.462	

* $p < .05$ ** $p < .01$ *** $p < .001$

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Table 5: disaggregating each biracial group from its monoracial components

Monoracial components	Biracial group	Status Attainment	Parenting Styles	Oppositional Culture	Concrete/Abstract beliefs
white	black white	*	*	*	
	Latino white				
	Asian white				
Asian	Asian white				
	Asian black	***	***	***	*
	Asian Latino				
Latino	Latino white				
	Latino black				
	Latino Asian				
black	black white				
	black Asian	***	***	**	
	black Latino				

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 6: Means and standard deviations, by race category, for all regression variables

	black	white	Asian	Latino	blackwhite	blackAsian	blackLatino	whiteAsian	whiteLatino	AsianLatino	Total	N
GPA1	2.459	2.887	3.189	2.458	2.601	2.483	2.234	2.948	2.515	2.585	2.805	9247
	.743	.786	.742	.809	.784	1.098	.865	.768	.831	.795	.822	
GPA2	2.505	2.936	3.147	2.545	2.593	3.182	2.292	2.952	2.605	2.594	2.858	5945
	.681	.772	.741	.789	.767	.643	.674	.819	.667	.701	.789	
SES	3.105	3.410	3.265	2.367	3.263	3.040	2.913	3.326	2.969	2.720	3.221	8833
	.701	.629	.885	1.031	.735	.935	.915	.755	.812	.834	.801	
Aspirations	4.548	4.812	5.016	4.041	4.763	4.467	4.115	4.855	4.287	4.278	4.692	9640
	1.327	1.173	1.109	1.433	1.301	1.717	1.700	1.186	1.358	1.379	1.265	
Peer values	3.261	2.964	3.282	3.087	2.957	2.952	3.167	3.037	2.992	3.232	3.050	7471
	.742	.786	.756	.806	.803	.994	.868	.846	.815	.668	.795	
Ethnic importance	2.463	1.815	2.473	2.583	2.253	2.700	2.816	2.202	2.290	2.346	2.103	9120
	1.298	.994	1.149	1.270	1.266	1.622	1.409	1.179	1.177	1.064	1.153	
Ethnic positivity	4.577	4.512	4.259	4.483	4.333	4.167	4.245	4.211	4.430	4.346	4.464	9068
	1.374	1.026	1.246	1.327	1.292	1.642	1.726	1.227	1.180	1.186	1.155	
Racism	1.727	1.195	1.613	1.607	1.733	2.143	2.056	1.376	1.380	1.327	1.375	8962
	.809	.459	.717	.799	.954	1.362	1.133	.652	.690	.638	.662	
Cutting class	1.413	1.411	1.344	1.598	1.572	2.067	1.997	1.522	1.541	1.760	1.450	9313
	.796	.699	.678	.877	1.004	1.528	1.220	.811	.825	.934	.762	
Try hard in school	4.041	3.823	4.043	4.044	3.637	3.494	3.819	3.880	3.943	3.913	3.897	7516
	.827	.881	.829	.811	.876	1.517	.809	.827	.854	.856	.872	
Authoritarian parenting	2.230	1.932	2.171	2.131	2.159	2.290	2.146	2.008	2.082	2.061	2.036	9625
	.596	.534	.565	.571	.616	.771	.530	.559	.540	.486	.565	
Authoritative parenting	2.409	2.382	2.267	2.252	2.339	2.492	2.281	2.263	2.307	2.168	2.348	9618
	.612	.533	.526	.560	.637	.611	.642	.590	.542	.483	.550	
Permissive parenting	1.740	1.700	1.794	1.895	1.729	1.850	1.833	1.743	1.799	1.778	1.746	9662
	.416	.355	.416	.433	.423	.545	.508	.363	.397	.396	.391	

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